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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 09/545,334 | 04/07/2000 | Jeffrey E. Habben | 0803 | 9587 |

27310 7590 03/27/2003

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| EXAMINER | |
|---|---|
| BAUM, STUART F | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1638 | |

DATE MAILED: 03/27/2003

19

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/545,334 | HABBEN ET AL. | |
| | Examiner | Art Unit | |
| | Stuart F. Baum | 1638 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *23 January 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-5,7-11,13,14,17,18,20-24,26,27,30,32-36,38,39 and 42-59* is/are pending in the application.

4a) Of the above claim(s) *9,11,22,24,34,36,48,50-52,54-56,58 and 59* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,7,8,10,13,14,17,18,20,21,23,26,27,30,32,33,35,38,39,42-47,49,53 and 57* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _____ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *2,3,4,10*.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

## DETAILED ACTION

1. The amendment filed 1/21/2003 has been entered.

Claims 1-5, 7-11, 13-14, 17-18, 20-24, 26-27, 30, 32-36, 38-39, and 42-59 are pending.

2. Applicant's election of the cytokinin modulating gene isopentenyl trasferase, *ipt*, and the promoter *end2*, in Paper No. 18 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claims 6, 12, 15-16, 19, 25, 28-29, 31, 37, and 40-41 have been canceled.

Claims 48-59 have been newly added.

Claims 9, 11, 22, 24, 34, 36, 48, 50-52, 54-56 and 58-59 have been withdrawn from consideration for being drawn to non-elected inventions.

3. Claims 1-5, 7-8, 10, 13-14, 17-18, 20-21, 23, 26-27, 30, 32-33, 35, 38-39, 42-47, 49, 53, and 57 are examined in the present office action.

### *Information Disclosure Statement*

4. The references in the information disclosure statement filed February 4, 2002, were not considered since they are all duplicates of the references in the IDS filed Nov. 7, 2000. The reference A24 (WO 99/06571) in the IDS filed January 2, 2002, has not been considered since it is a duplicate of the reference A6 in the IDS filed June 26, 2000. All the remaining references from the IDS's filed June 26, 2000; July 10, 2000; Nov. 7, 2000; and Jan. 2, 2002, have been

considered. The non-considered, duplicate, references have been crossed-out on the PTO-1449 forms (see Applicant's copies of the PTO-1449 forms attached to the instant Office action).

### *Claim Objections*

5. Claims 7, 20, 32, 49, 53, and 57 are objected to for reading on non-elected inventions. Applicant is requested to amend the claims to not read on the non-elected inventions.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-5, 7-8, 10, 13-14, 17-18, 20-21, 23, 26-27, 30, 32-33, 35, 38-39, 42-47, 49, 53, and 57 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the metes and bounds of "capable" are not defined. It is not clear what is encompassed by "capable". How does one measure the limits of "capable". The Examiner suggests amending the claim to recite, "A method for producing fertile, transgenic plants which express..."

In claim 1, the metes and bounds of "regulated expression" have not been defined. What are the limits of gene regulation that are encompassed in "regulated expression". Is expression regulated by something else, or is the cytokinin modulating gene doing the regulation?

In claim 1, the metes and bounds of "cytokinin modulating gene" are not defined. Applicant has not defined the limits of a "cytokinin modulating gene". This term can be interpreted to include, for example, all enzymes involved in metabolism, which in *Arabidopsis* translates into about 4000 genes (The Arabidopsis Genome Initiative, Nature 408(14 Dec.):796-815, 2000; page 798, Table 1). As written, the Office is interpreting the claim to read on all genes involved in plant physiology and development as these processes affect cytokinin levels. All subsequent recitations of "cytokinin modulating gene" are also rejected.

Claim 1 is indefinite in the recitation of "gene". There is not a standard definition for this term, i.e., a gene can denote the coding region of an amino acid sequence or a gene can be defined as containing regulatory elements operably linked to the coding polynucleotide sequence encoding an amino acid sequence. If appropriate, the term "polynucleotide" can be used to denote nucleic acid molecules that encode a polypeptide. All subsequent recitations of "gene" are also rejected.

In claim 1, the metes and bounds of "preferential" have not been defined. What are the limits of "preferential" and how does one measure or asses if a spatial or temporal expression pattern is "preferential"? All subsequent recitations of "preferential" are also rejected.

In claim 1, the metes and bounds of "sufficient" have not been defined. The Examiner suggests deleting this term from the claim as it is indefinite and confusing.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted step is: wherein the introduced DNA is expressed in the transformed plant cell. The omitted step is inserted between the first and second step of the present claim.

In claim 5, "seed" should be replaced with --seeds--.

In claim 5, the word "operatively" should be replaced with "operably".

In claims 5, 18, and 30 it is unclear if the "promoter" or the "plant seed" is linked to a gene. Inserting --wherein the promoter is-- after the word "seed(s)" will obviate the rejection.

In claim 7, "seed" should be replaced with --seeds--.

In claim 8, the metes and bounds of "embryo-preferred expression" have not been defined. It is not clear to what degree a promoter has to specify expression in an embryo to be considered "embryo-preferred expression".

In claim 10, the metes and bounds of "endosperm-preferred expression" have not been defined. It is not clear to what degree a promoter has to specify expression in an embryo to be considered "endosperm-preferred expression".

In claim 13, the term "modulating" is unclear. Applicant needs to explicitly state how the polynucleotide encoding a cytokinin biosynthetic enzyme has been changed. All subsequent recitations of "modulating" are also rejected.

In claim 13, the metes and bounds of "cytokinin biosynthetic enzyme" has not been defined. How does one measure or asses if an enzyme is considered to be a "cytokinin biosynthetic enzyme?

In claim 14, "transferase" is misspelled.

In claim 17, the term "modulation" is unclear. Applicant needs to explicitly state how the cytokinin level has been altered and how does one asses the cytokinin level above which is considered to have been changed when compared to a non-transformed plant. All subsequent recitations of "modulation" are also rejected.

In claim 30, insert the word "molecule" after "DNA".

In claim 43, the recitation "yield stability" has not been defined. What does "yield stability mean? How does one measure or asses if ones yield is stable?

In claim 43, the metes and bounds of "preferentially" have not been defined. What are the limits of "preferentially" and how does one measure or asses if a polynucleotide encoding an enzyme involved in changing cytokinin levels has been preferentially expressed?

In claim 43, the recitation "lag phase of plant seed development" have not been defined. What is the "lag phase"? What are the developmental features that characterize the "lag phase"?

Claim 43 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted step is: wherein the introduced DNA is expressed in the transformed plant. Applicant is to insert this step at the appropriate place and the method steps must result in improved stress tolerance and yield stability in plants.

***Written Description***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 1-5, 7-8, 10, 13, 17-18, 20-21, 23, 26, 30, 32-33, 35, 38, 42-47, 49, 53, and 57 rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant

art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claims are drawn to a method of producing a transgenic plant that regulates cytokinin levels in developing seeds, comprising transforming a plant with a cytokinin modulating gene operably linked to an end2 promoter, wherein the cytokinin modulating gene encodes a cytokinin biosynthetic enzyme, a transgenic plant comprising a construct that effects the cytokinin levels in seeds, wherein the construct comprises a cytokinin modulating gene operably linked to an end2 promoter and wherein the cytokinin modulating gene encodes a cytokinin biosynthetic enzyme, or an isolated recombinant DNA molecule and a method for improving stress tolerance and yield comprising a construct comprising a cytokinin modulating gene operably linked to an end2 promoter wherein the cytokinin modulating gene encodes a cytokinin biosynthetic enzyme.

Applicants assembled constructs comprising an ipt coding sequence operably linked to GLB1 promoter (page 46, 2nd paragraph), and operably linked to the Gz and Lpt2 promoters whose expression profiles are not disclosed (page 55, 2nd paragraph; page 56, 2nd paragraph) both of which are transformed into maize (page 48, Example 2; page 55, 2nd paragraph and page 56, 2nd paragraph).

Applicants have claimed a cytokinin modulating gene, cytokinin biosynthetic enzyme and an end2 promoter, however, the specification fails to describe adequate representative numbers of cytokinin modulating genes, or cytokinin biosynthetic enzymes, which encompass any gene which directly or indirectly, in any pathway, affect the expression of cytokinin or affect the level of already expressed cytokinin by any method (binding, antagonists, protagonists, competitive binding, antibodies, etc). The specification also does not describe an end2 promoter

or its expression profile. Applicants only reference provisional applications and a non-provisional application (page 29, top paragraph) but they fail to discloses within the present application the necessary information needed by one skilled in the art to identify an end2 promoter. Neither the specification nor the prior art discloses the relevant physical characteristics nor the chemical properties of cytokinin modulating genes, cytokinin biosynthetic enzymes and an end2 promoter. Subsequently, at the time the application was filed, one of skill in the art could not have predicted the relevant identifying characteristics of cytokinin modulating genes, cytokinin biosynthetic enzymes and an end2 promoter as disclosed in the instant application. Accordingly, one of skill in the art would not have recognized the Applicants to have been in possession of the claimed nucleic acids, constructs, transformed plants, and methods. Therefore, the written description requirement is not satisfied. Therefore, one skilled in the art would not recognize from the disclosure that Applicant was in possession of the claimed invention. (see Written Description Requirement published in Federal Register/Vol.66, No. 4/ Friday, January 5, 2001/Notices; p. 1099-1111).

***Scope of Enablement***

8. Claims 1, 5, 7-8, 10, 13, 17-18, 20-21, 23, 26, 30, 32-33, 35, 38, 42-47, 49, 53, and 57 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a maize plant transformed with an isopentenyl transferase encoding polynucleotide (ipt) to produce seeds with increased zeatin levels, increased seed set compared to plants transformed with other genes (page 56, Table 2) and seeds that exhibit vivipary, does not reasonably provide enablement for claims drawn to a method of producing a transgenic plant that regulates cytokinin

levels in developing seeds, comprising transforming a plant with a cytokinin modulating gene operably linked to an end2 promoter, wherein the cytokinin modulating gene encodes a cytokinin biosynthetic enzyme, a transgenic plant comprising a construct that effects the cytokinin levels in seeds, wherein the construct comprises a cytokinin modulating gene operably linked to an end2 promoter and wherein the cytokinin modulating gene encodes a cytokinin biosynthetic enzyme, or an isolated recombinant DNA molecule and a method for improving stress tolerance and yield comprising a construct comprising a cytokinin modulating gene operably linked to an end2 promoter wherein the cytokinin modulating gene encodes a cytokinin biosynthetic enzyme. In addition, Applicants are not enabled for promoters that direct embryo- or endosperm-preferred expression or promoters that preferentially express from about 14 to 25 days after pollination (DAP), 4 to 21 DAP, 4 to 12 DAP or 8 to 12 DAP. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims.

The claimed invention is not supported by an enabling disclosure taking into account the *In re Wands* factors (858F.2d 731, 8 USPQ2d 1400 (Fed. Cir. 1988). *In re Wands* lists a number of factors for determining whether or not undue experimentation would be required by one skilled in the art to make and/or use the invention. These factors are: the quantity of experimentation necessary, the amount of direction or guidance presented, the presence or absence of working examples of the invention, the nature of the invention, the state of the prior art, the relative skill of those in the art, the predictability or unpredictability of the art, and the breadth of the claim.

Applicants are claiming methods, a transgenic plant and an isolated recombinant DNA molecule, all of which comprise a cytokinin modulating gene, but Applicant does not disclose a representative number of cytokinin modulating genes. There are many pathways by which the levels or activity of cytokinin can be modulated. The molecule can for example, be glycosylated, can bind to a receptor or another molecule, can be degraded, or enzymes that are involved in any of these processes can be up or down regulated which affect the levels or activity of active cytokinin. Applicant's claims read on all of the above mentioned pathways and more but Applicant has not provided guidance or examples how one skilled in the art would use any enzyme involved in any of the above mentioned pathways as a cytokinin modulating gene in the claimed invention.

Applicants are claiming any cytokinin biosynthetic enzyme but the biochemical pathway(s) which result in active cytokinins, are still being elucidated. The state-of-the-art teaches there are multiple cytokinin biosynthetic pathways in plants and the investigations are still on going. Takei et al (2001, Journal of Biological Chemistry 276(28):26405-26410) teach multiple routes have been proposed in cytokinin biosynthesis. One such route involves tRNA modification, but because of the high turnover rate of tRNA, it is estimated that the degradation pathway is not a major source of cytokinin (page 26405, paragraph bridging the left and right columns). In addition, Takei et al teach that not all IPT genes cloned from *Arabidopsis* produced active cytokinins (iPMP). For example, *E. coli* transformed with AtIPT2 did not secrete active cytokinin into the culture medium. Taken together, these results imply that not all cytokinin biosynthetic enzymes are known, and because of the various pathways, certain enzymes will

have specific substrate specificities that cannot be predicted from the available knowledge at present.

Applicants are also claiming a DNA molecule, transgenic plants and a method for producing a transgenic plant, all of which encompass a cytokinin modulating gene. Applicants have not exemplified the claimed material and the state-of-the-art teaches that cytokinin modulating genes produce unpredictable results. Kusaba et al (1998, Plant Physiology 116(2):471-476) teach ectopically expressing the rice homeobox gene OSH1 in rice, *Arabidopsis* and tobacco caused morphological alterations. The morphological alterations were correlated with changes in hormone levels. In particular, the active form of cytokinin had increased levels, and the ratio of active to inactive form of cytokinin was also increased (abstract). Therefore, the rice OSH1 gene modulates cytokinin activity and when ectopically expressed in plants produces unpredictable results.

Applicants claim an end2 promoter that is operably linked to their specified polynucleotide sequences but Applicants have not exemplified an end2 promoter, nor have they disclosed how to identify an end2 nucleic acid sequence, or what is the expression profile for an end2 promoter. In addition, Applicants have claimed a promoter that expresses in embryos and endosperm and in embryos at particular times during the development of the embryo (see claims 44-47) but Applicant has not taught or provided guidance as to which promoter to use to enable such a particular expression pattern. Because Applicants claims are directed to specific cells expressing the claimed material, one skilled in the art cannot simply use any constitutive or any tissue specific promoter to achieve the disclosed phenotypes, i.e., seeds with increased zeatin, increased seed set and seeds that exhibit vivipary. Binns (1994, Annu. Rev. Plant Physiol. Plant

Mol. Biol. 45:173-196) teach an unpredictable result when the *ipt* gene was transformed into *Nicotiana glutinosa* cells. The transformed cells formed an unorganized tissue that was capable of growing in the absence of either auxin or cytokinin (page 188, top paragraph). Binns continues by stating that this was unexpected because exogenous cytokinin could not support the growth of non-transformed cell in the absence of auxin. Binns concludes by stating that the transformed cells respond differently to hormone signals than cells not transformed with the *ipt* gene. Therefore, to achieve the claimed results when transforming a plant with an *ipt* gene, a promoter with a specific expression profile must be used to avoid producing unexpected results.

In addition, using a promoter isolated from one species of plant would produce unpredictable results when said promoter is used to specify expression of a gene in another species of plant. Oommenn et al (1994, The Plant Cell 6:1789-1803) teach that the alfalfa isoflavone reductase promoter exhibits a different expression pattern in tobacco as compared to the expression in alfalfa. In tobacco, the alfalfa isoflavone reductase promoter expressed in vegetative tissues and in reproductive organs whereas the same construct only expressed in the root meristem, cortex and nodules of alfalfa plants (abstract).

Given the unpredictability of transforming a plant with a cytokinin modulating gene for the reasons discussed above; given the lack of knowledge of all cytokinin modulating genes and cytokinin biosynthetic enzymes and their substrates as discussed above; given the unpredictability of expressing an *ipt* gene in all tissues of a plant and achieving a particular phenotype for the reasons discussed above; given the lack of guidance and examples in using any cytokinin modulating gene or in using any cytokinin biosynthetic gene except the *ipt* gene as disclosed in the Examples of the specification of the present application; given the lack of

guidance and examples of using an end2 promoter and lack of guidance and examples of identifying or isolating an end2 promoter; given the lack of disclosure pertaining to exactly what type of expression pattern is needed to achieve the claimed or disclosed results; given the lack of predictability in using a promoter isolated from one species of plant to be used in another for the reasons discussed above; given the state-of-the-art as discussed above and breadth of the claims, it would require undue experimentation by one skilled in the art to make and/or use the broadly claimed invention.

### *Claim Rejections - 35 USC § 102*

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-2, 4-5, 13-14, 17-18, 26-27, 30, 38-39, 42-43, 49, 53, and 57 are rejected under 35 U.S.C. 102(b) as being anticipated by Houck et al (January, 1993, U.S. Patent Number 5,177,307).

The claims are drawn to a method for producing a transgenic plant using *Agrobacterium*, in which a cytokinin modulating gene is regulated in developing seeds, wherein the modulating gene is a cytokinin biosynthetic enzyme, wherein the cytokinin biosynthetic enzyme is isopentenyl transferase (ipt), a transgenic plant comprising a construct that modulates cytokinin levels in seeds and a method for improving stress tolerance and yield stability comprising expressing a cytokinin modulating gene during seed development.

Houck et al teach a method of expressing a cytokinin biosynthetic gene in tomato fruits using a promoter that expresses in the developing fruit and seed coat of seeds (column 16, lines 36-39). Houck et al transform tomato using *Agrobacterium* (column 27, Example 7) and teach

the cytokinin biosynthetic gene ipt (column 5, line 67). It would be an inherent feature of seeds in which cytokinin levels is modulated, that the stress tolerance and yield stability would be improved and as such, Houck et al anticipate the claimed invention.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 1-5, 8, 10, 13-14, 17-18, 21, 23, 26-27, 30, 33, 35, 38-39, 42-47, 49, 53, and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Houck et al (January, 1993, U.S. Patent Number 5,177,307) as applied to claims 1-2, 4-5, 13-14, 17-18, 26-27, 30, 38-39, 42-43, 49, 53, and 57 above, and further in view of Tomes et al (March, 1999, U.S. Patent Number 5,877,400).

The teachings of Houck et al have been discussed above.

Houck et al do not teach particle bombardment, a promoter expressing in embryos or endosperm during 4 to about 25 days after pollination.

Tomes et al teach particle bombardment (column 11, lines 59-62), and promoters expressing in endosperm and embryos during 4 to about 25 days after pollination (column 10, lines 19-25).

It would have been prima facie obvious to one skilled in the art at the time the invention was made to transform a plant with an ipt gene as taught by Houck et al using the embryo and endosperm expressing promoters of Tomes, so as to express the ipt gene in developing seeds with a reasonable expectation of success. Houck teaches that increased cytokinins increase the mass of seeds (column 4, lines 24-27) which improves seed set, increases yield and it is known in the art that increased cytokinin levels ameliorate the effects of senescence (column 3, lines 1-5) which can be brought on by stress. Houck et al teach using tissue specific promoters so as to modulate cytokinin levels in tissues and at particular times of development (column 3, lines 1-5). Given the teachings of Houck et al., it would have been obvious to substitute the promoters used by Houck et al to increase fruit size, with the promoters of Tomes et al so as to express the cytokinin biosynthetic gene, ipt, in developing embryos and endosperms of maturing seeds.

11. No claims are allowed.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stuart Baum whose telephone number is (703) 305-6997. The examiner can normally be reached on Monday-Friday 8:30AM – 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson can be reached on (703) 306-3218. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3014 or (703) 305-3014 for regular communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist, who may be contacted at 308-0196.

Stuart F. Baum Ph.D.

March 13, 2003

Phuong Bui

PHUONG T. BUI
PRIMARY EXAMINER 3/21/03